IN THE CLAIMS

1. (Currently Amended) A method for depositing a dielectric film, the method comprising:

heating a chamber, within which a substrate is located, to a temperature sufficient to thermally decompose an oxidizing component; and

passing ~~a gas flow~~ reaction gasses over the substrate to deposit the dielectric film, wherein the ~~gas flow includes~~ reaction gasses include a silicon bearing component, the oxidizing component, and a chloride component, and wherein the silicon bearing component and the chloride component are included within distinct ones of the reaction gasses introduced into the chamber ~~distinct from each other~~.

2. (Original) The method of claim 1, wherein the dielectric film is an oxide film.

3. (Currently Amended) The method of claim 1, wherein the reaction gasses ~~gas flow~~ further includes ammonia, and the dielectric film is an oxynitride film.

4. (Original) The method of claim 1, wherein the silicon bearing component consists essentially of one or more halated silanes.

5. (Original) The method of claim 1, wherein the silicon bearing component includes at least one component selected from the group consisting of silane, disilane, monochlorosilane, dichlorosilane, trichlorosilane, and tetrachlorosilane, in any combination.

6. (Original) The method of claim 1, wherein the chloride component includes at least one component selected from the group consisting of hydrogen chloride and chlorine, in any combination.

7. (Original) The method of claim 1, wherein the substrate is heated to a temperature in a range between 700 degrees C. and 950 degrees C., inclusive.

8. (Currently Amended) The method of claim 1, wherein the reaction gasses have ~~gas flow has~~ a total pressure in a range between 50 milliTorr and 4000 milliTorr inclusive.

9. (Currently Amended) A method for depositing a dielectric film, the method comprising:

heating a substrate, within a chamber, to a temperature sufficient to thermally decompose an oxidizing component; and

passing ~~a gas flow~~ reaction gasses over the substrate, wherein the ~~gas flow includes~~ reaction gasses include a silicon bearing component, the oxidizing component, and chlorine, and wherein the silicon bearing component and the chlorine are included within distinct ones of the reaction gasses introduced into the chamber.

10. (Original) The method of claim 9, wherein the silicon bearing component consists essentially of dichlorosilane.

11. (Original) The method of claim 9, wherein the oxidizing component consists essentially of nitrous oxide.

12. (Currently Amended) The method of claim 9, wherein the reaction gasses ~~gas flow~~ further includes ammonia, and the dielectric film is an oxynitride film.

13. (Currently Amended) A method for depositing a dielectric film, the method comprising:

heating a substrate, within a chamber, to a temperature sufficient to thermally decompose an oxidizing component; and

passing ~~a gas flow~~ reaction gasses over the substrate, wherein the ~~gas flow includes~~ reaction gasses include a silicon bearing component, the oxidizing component, and hydrogen chloride, and wherein the silicon bearing component and the hydrogen chloride are included within distinct ones of the reaction gasses introduced into the chamber.

14. (Original) The method of claim 13, wherein the silicon bearing component consists essentially of dichlorosilane.

15. (Original) The method of claim 13, wherein the oxidizing component consists essentially of nitrous oxide.

16. (Currently Amended) The method of claim 13, wherein the reaction gasses ~~gas flow~~ further includes ammonia, and the dielectric film is an oxynitride film.

17. (Currently Amended) A method for depositing a dielectric film, the method comprising:

heating a substrate, within a chamber, to a temperature sufficient to thermally decompose an oxidizing component; and

passing ~~a gas flow~~ reaction gasses over the substrate, wherein the ~~gas flow includes~~ reaction gasses include a silicon bearing component, [[an]] the oxidizing component, an ammonia component, and a chloride component, and wherein the silicon bearing component and the chloride component are included within distinct ones of the reaction gasses introduced into the chamber ~~that is distinct from the silicon bearing component~~.

18. (Original) The method of claim 17, wherein the silicon bearing component consists essentially of dichlorosilane.

19. (Original) The method of claim 17, wherein the oxidizing component consists essentially of nitrous oxide.

20. (Original) The method of claim 17, wherein the chloride component consists essentially of hydrogen chloride.

21. (Original) The method of claim 17, wherein the chloride component consists essentially of chlorine.

22. (Currently Amended) A method for depositing an oxynitride film, the method comprising:

heating a substrate, within a chamber, to a temperature sufficient to thermally decompose an oxidizing component; and

passing ~~a gas flow~~ reaction gasses over the substrate, wherein the ~~gas flow includes~~ reaction gasses include a precursor component, [[an]] the oxidizing component, an ammonia component, and a chloride component, and wherein the precursor component and the chloride component are included within distinct ones of the reaction gasses introduced into the chamber ~~that is distinct from the precursor component~~.

23. (Original) The method of claim 22, wherein the precursor component includes at least one component selected from the group consisting of a silicon bearing component, a tantalum bearing component, and an aluminum bearing component, in any combination.

24. (Original) The method of claim 22, wherein the precursor component includes at least one component selected from the group consisting of silane, disilane, monochlorosilane, dichlorosilane, trichlorosilane, and tetrachlorosilane, in any combination.

25. (Original) The method of claim 22, wherein the precursor component consists essentially of a tantalum bearing component.

26. (Original) The method of claim 22, wherein the precursor component consists essentially of an aluminum bearing component.

27. (Original) The method of claim 22, wherein the oxidizing component consists essentially of nitrous oxide.

28. (Original) The method of claim 22, wherein the chloride component consists essentially of hydrogen chloride.

29. (Original) The method of claim 22, wherein the chloride component consists essentially of chlorine.

30. (Currently Amended) A method for fabricating a semiconductor device, comprising:

heating a substrate, within a chamber; and

depositing a dielectric layer over the substrate by passing ~~a gas flow~~ reaction gasses over the substrate, wherein the ~~gas flow includes~~ reaction gasses include a silicon bearing component, an oxidizing component, and a chloride component, and wherein the silicon bearing component and the chloride component are included within distinct ones of the reaction gasses introduced into the chamber ~~distinct from each other~~.

31. (Currently Amended) The method of claim 30, wherein the reaction gasses ~~gas flow~~ further includes an ammonia component, and the dielectric layer is an oxynitride layer having thermal properties that make the semiconductor device suitable for use as an optical waveguide.

32. (Original) The method of claim 30, further comprising:

etching a trench into the substrate, wherein the dielectric layer is an oxide deposited on an inner surface of the trench.

33. (Original) The method of claim 32, further comprising:

allowing a native oxide layer to form prior to depositing the dielectric layer;

depositing a nitride layer over the native oxide layer prior to depositing the dielectric layer; and

wherein depositing the dielectric layer includes also including an ammonia component in the gas flow, so that the dielectric layer is an oxynitride layer.

34. (Currently Amended) ~~The method of claim 30~~ A method for fabricating a semiconductor device, comprising:

heating a substrate; and

depositing a dielectric layer over the substrate by passing a gas flow over the substrate, wherein the gas flow includes a silicon bearing component, an oxidizing component, and a chloride component, and wherein the silicon bearing component and the chloride component are distinct from each other, wherein the semiconductor device includes one or more gates, and wherein the dielectric layer forms one or more spacers for isolating the one or more gates from one or more contacts.

35. (Currently Amended) ~~The method of claim 30~~ A method for fabricating a semiconductor device, comprising:

heating a substrate; and

depositing a dielectric layer over the substrate by passing a gas flow over the substrate, wherein the gas flow includes a silicon bearing component, an oxidizing component, and a chloride component, and wherein the silicon bearing component and the chloride component are distinct from each other, wherein the semiconductor device includes one or more gates and one or more metal layers, and wherein the dielectric layer forms a cap over the one or more gates and the one or more metal layers.

36. (Currently Amended) A method for forming a dielectric structure, the method comprising:

heating a silicon substrate, in a furnace deposition tube, to a temperature in a range of 700 degrees C. to 950 degrees C., inclusive; and

thermally oxidizing the silicon substrate, in the furnace tube, using gaseous reactants, which include a chloride component, dichlorosilane, and nitrous oxide, wherein the chloride component and the dichlorosilane are included in distinct gasses introduced into the furnace deposition tube.

37. (Original) The method of claim 36, wherein the chloride component includes hydrogen chloride.

38. (Original) The method of claim 36, wherein the chloride component includes chlorine.

39. (Original) The method of claim 38, wherein thermally oxidizing the silicon substrate further includes using ammonia as one of the gaseous reactants.

40-49. (Canceled)